

NOVAWALL SYSTEMS, INC. ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM C423 SOUND ABSORPTION TESTING ON A
NOVAWALL VT, ABSORPTION PANEL AND BAFFLE SYSTEM

REPORT NUMBER

I1641.01-113-11-R0

TEST DATE

03/07/18

ISSUE DATE

03/26/18

RECORD RETENTION END DATE

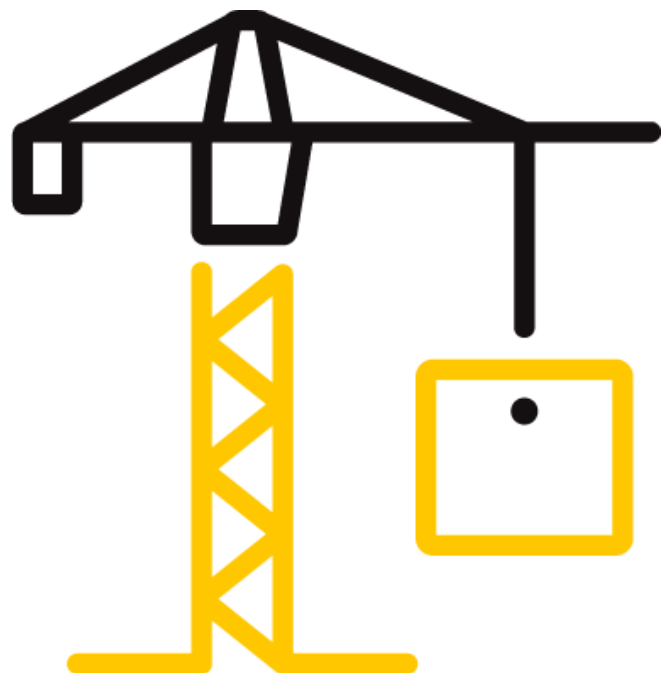
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TEST REPORT FOR NOVAWALL SYSTEMS, INC.

Report No.: I1641.01-113-11-R0

Date: 03/26/18

REPORT ISSUED TO NOVAWALL SYSTEMS, INC.

885-B South Pickett Street
Alexandria, Virginia 22304

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Novawall Systems, Inc. to perform a sound absorption test. Results obtained are tested values and were secured by using the designated test method(s). The complete test data is included herein. The client provided the test specimen. All measurements were conducted in the HT test chambers at Intertek B&C located in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

SERIES/MODEL		Novawall VT				
SAMPLE TYPE		Absorption panel and baffle system				
MOUNTING TYPE		Type J				
DATA FILE NO.	(M²/unit) AT THE OCTAVE BAND FREQUENCIES					
	125	250	500	1000	2000	4000
I1641.01A	0.92	0.90	1.52	2.13	2.30	2.28

For INTERTEK B&C:

COMPLETED BY:	Daniel J. Poet	REVIEWED BY:	Kurt A. Golden
	Technician II		Project Lead
TITLE:	Acoustical Testing	TITLE:	Acoustical Testing
SIGNATURE:		SIGNATURE:	
DATE:	03/26/18	DATE:	03/26/18

DJP:jmcs

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SECTION 3

TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM C423-17, *Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method*

ASTM E795-16, *Standard Practices for Mounting Test Specimens During Sound Absorption Tests*

SECTION 4

SPECIMEN MOUNTING

For the Type J mounting, the test specimen was placed on stilts 36" from the floor and 18" apart, with the absorptive side facing the sound field in the reverberation room.

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SECTION 5 EQUIPMENT

The equipment listed below meets the requirements of the test methods stated in Section 3 of this report.

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	DATE OF CALIBRATION
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65124	06/16 *
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126	05/16 *
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65125	05/16 *
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64907	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	12/17
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	01/18
Receive Room Environmental Indicator	Comet	T7510	Receive Room	INT00603	03/18
Microphone Calibrator	Norsonic	1251	Pistonphone Calibrator	Y002929	04/17

*- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.

Test Chamber:

	VOLUME	DESCRIPTION
RECEIVE ROOM	234 m ³	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor

N/A Not Applicable

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SECTION 6

LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Daniel Poet	Intertek B&C
Sean Close	Intertek B&C

SECTION 7

TEST PROCEDURE

The sensitivity of the microphones was checked before measurements were conducted. Empty room sound absorption measurements were conducted before the specimen was installed. Full room sound absorption measurements were conducted after the specimen was installed.

For the empty and full room measurements, ten decay measurements were conducted at each of the five microphone positions. Data was obtained at 1/3 octave band frequencies ranging from 80 to 5000 hertz. The air temperature and relative humidity conditions were monitored and recorded during the measurements.

Intertek B&C will store samples of test specimens for four years.

SECTION 8

TEST CALCULATIONS

The Sound Absorption Coefficient is the full room absorption minus the empty room absorption divided by the number of units being tested. The Sound Absorption Coefficient is dimensionless.

SECTION 9

TEST SPECIMEN DESCRIPTION

Four, 1.22 m by 1.22 m (48" by 48"), panels were arranged 0.92 m (36") off the floor and 0.46m (18") apart from each other. The total weight of the specimen was 38.10 kg (84 lbs). Photographs are included in Section 12. The client did not supply a report drawing of the test specimen.

*The Novawall VT Panel and Baffle system is comprised of 1-1/2" thick perimeter aluminium frame with 1" Novawall Classic track, 1" thick 6PCF rigid acoustical fiberglass covered in Guilford of Maine fabric.

INFILL MEASUREMENTS/DESCRIPTION	THICKNESS	DENSITY	WEIGHT
1" Thick 6 PCF Rigid acoustical fiberglass*	25.65 mm	6.06 lbs/ft ³	0.51 lbs/ft ²
	1.01"	9.71 kg/m ³	2.47 kg/m ²

* - Stated per Client/Manufacturer

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SECTION 10

TEST RESULTS

I1641.01A DATA

NO. OF UNITS	4.00	
MOUNTING TYPE	J	
	EMPTY	FULL
TEMP °C	21.4	21.6
RH %	50	50
B.P. (mb)	989	989

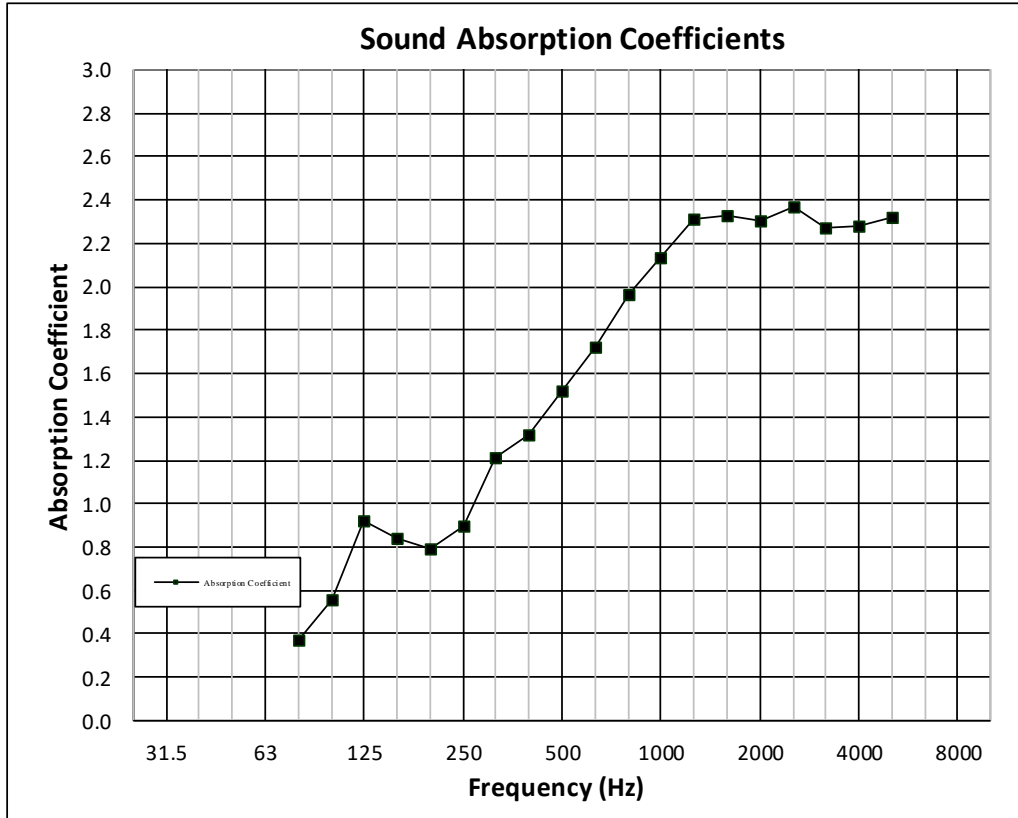
FREQ (Hz)	EMPTY ROOM ABSORPTION (m ²)	UNCERTAINTY	FULL ROOM ABSORPTION (m ²)	UNCERTAINTY	ABSORPTION (M ² Per Unit)	RELATIVE UNCERTAINTY
80	4.04	0.141	5.54	0.560	0.37	0.048
100	4.94	0.350	7.19	0.164	0.56	0.032
125	4.94	0.308	8.62	0.169	0.92	0.029
160	4.24	0.219	7.60	0.098	0.84	0.020
200	4.27	0.108	7.44	0.069	0.79	0.011
250	5.01	0.140	8.60	0.104	0.90	0.014
315	5.04	0.030	9.89	0.029	1.21	0.003
400	5.21	0.051	10.50	0.034	1.32	0.005
500	5.17	0.050	11.26	0.151	1.52	0.013
630	4.83	0.033	11.70	0.030	1.72	0.004
800	5.06	0.059	12.89	0.018	1.96	0.005
1000	5.04	0.023	13.58	0.011	2.13	0.002
1250	5.36	0.018	14.59	0.025	2.31	0.003
1600	5.42	0.022	14.73	0.019	2.33	0.002
2000	5.33	0.011	14.52	0.028	2.30	0.002
2500	5.57	0.009	15.07	0.086	2.37	0.007
3150	6.13	0.011	15.23	0.009	2.27	0.001
4000	6.48	0.010	15.61	0.006	2.28	0.001
5000	7.00	0.003	16.27	0.003	2.32	0.000

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I1641.01A GRAPH



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SECTION 11

PHOTOGRAPHS



Photo No. 1
View of Installed Specimen



Photo No. 2
Cross Section View of Specimen



Total Quality. Assured.

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York, Pennsylvania 17406

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SECTION 12

REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	03/26/18	N/A	Original Report Issue